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Research Product 87-03

**A Detailed Description of the
National Training Center Instrumentation
System Initialization Procedure**

**ARI Field Unit at Presidio of Monterey, California
Training Research Laboratory**

January 1987

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EDGAR M. JOHNSON
Technical Director

L. NEALE COSBY
Colonel, IN
Commander

Research accomplished under contract
for the Department of the Army

Technical review by

James H. Banks
John J. Kessler

A form with handwritten notes and stamps. The word "Order" is visible. There is a large handwritten "A-1" and "23" with a signature. A circular stamp is also present.

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20. (Continued)

The description provided in this document of the Initialization Procedure has been written at a management level. Thus, it will be most useful to NTC personnel with management responsibilities or to members of the research community who require a broad understanding of how NTC data is collected. Readers must, therefore, have a general understanding of the NTC to fully benefit from this report.

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A Detailed Description of the National Training Center Instrumentation System Initialization Procedure

T. J. Ritenour
The BDM Corporation

Contracting Officer's Representative
James H. Banks

ARI Field Unit at Presidio of Monterey, California
Howard H. McFann, Chief

Training Research Laboratory
Jack H. Hiller, Director

U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES
5001 Eisenhower Avenue, Alexandria, Virginia 22333-5600

Office, Deputy Chief of Staff for Personnel
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Education and Training

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FOREWORD

This report was prepared in response to the request of the Operations Group at the National Training Center (NTC). It is the first in a series of reports and products to be prepared by the Army Research Institute for NTC. These reports reflect ARI's continuing support to the Combined Arms Training Activity in its mission to produce Lessons Learned from the NTC.



EDGAR M. JOHNSON
Technical Director

A DETAILED DESCRIPTION OF THE NATIONAL TRAINING CENTER (NTC) INSTRUMENTATION SYSTEM INITIALIZATION PROCEDURE

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INTRODUCTION

This report presents a detailed description of the Instrumentation System Initialization Procedure that occurs at the start of each National Training Center (NTC) training unit rotation. The NTC Initialization procedure is the process which links the identifying data elements for each instrumented player. This is necessary so that the NTC instrumentation system can query players and display both characteristics and symbols accurately. The report addresses the sequence of events, the agencies and staff elements involved, and highlights the technical requirements necessary for the NTC instrumentation system to capture and save unit tactical performance data.

The report has been written as a management level overview, with sufficient detail included so that the report will be useful to NTC personnel with management responsibilities and to members of the research community who need to understand NTC procedures. The report provides the background and context for the detailed operating procedures which are needed by personnel responsible for executing specific jobs during the initialization process.

The reader must have a general understanding of the NTC to fully comprehend the importance of the initialization procedure and gain additional insight from this report.

BACKGROUND

Tactical units undertake an extensive period of preparation prior to arrival at the NTC. Normal components of this preparation include field tactical training, physical conditioning, extensive logistical planning, stockage and positioning of supplies, and a movement plan for specified types and numbers of unit vehicles to Fort Irwin by rail.

Fort Irwin has published a "Rotational Brigade Equipment Reference Data Guide" and other letter directives that provide the necessary details and instructions for a unit to arrive at the NTC, in-process, and be ready to train. From equipment stockpiled at Fort Irwin, the NTC provides the training unit those instrumented tracked combat vehicles and weapons normally found in Armor and Mechanized Infantry Battalions. The units bring with them the wheeled vehicles and other unique equipment to start training with a full set of combat equipment.

The NTC tracked combat vehicles are maintained, and prepared for re-issue between unit rotations by separate NTC contract support teams. One contract team is responsible for vehicle, weapon and communications systems maintenance. A second contract team repairs and maintains the MILES laser training devices. A third contract team installs and maintains a serial

numbered vehicle electronics package called a Micro-B unit [part of the Instrumentation Field Unit Component] that allows individual vehicles to communicate with the NTC instrumentation system during training exercises.

The NTC Instrumentation Initialization procedure identifies and links the following data elements for each instrumented player:

Task Force designation

Company designation

Platoon designation

Player [or vehicle] graphics identifier

Player type

Micro-B Unit identification number
[in both decimal & octal notation]

When a master list of all instrumented player data is completed and verified, the information is transferred to the NTC instrumentation system. When the instrumentation system can query players and display both characteristics and symbols accurately, the system is initialized.

SCOPE

This report describes the responsibilities and interaction of the various resident NTC staffs, agencies and commercial contract organizations that must work together to complete the NTC instrumentation system initialization. Table 1 presents the NTC resident agencies involved.

TABLE 1

NTC Resident Agencies Involved in the Initialization Process

TRADOC	FORSCOM
Operations Group	Headquarters, NTC
O/C Team Green	Deputy Cmdr - Support
o Infantry Observer	Deputy Chief of Staff-Contracts
Controllers	
o TAF 1	Commander, OPFOR - Armor Battalion
	Commander, OPFOR - Inf. Battalion
O/C Team Blue	Commander, Rotational Brigade
o Armor Observer	S-3
Controllers	S-4
o TAF 2	
Instrumentation Office	Commander, Armor Task Force
	S-3
	S-4
	Commander, Infantry Task Force
	S-3
	S-4
Instrumentation Support	Base Support Contract Team
Contract Team	
	LORAL - MILES Tech Rep

Table 2 presents the sequence of events that lead to Instrumentation Initialization. A more detailed version is included at Appendix II.

TABLE 2

Abbreviated Sequence of Events in the NTC System Initialization Process

DAY	EVENT	REFERENCE TAB
		(App. II)
H-30	The Commander of Fort Irwin notifies the next rotational unit of the number of instrumented track vehicles that will be available for issue.	A
H-8	OPS GROUP Receives Task Organization from the player Task Force.	B
	Instrumentation Office develops initial player list based upon unit task organization.	C
H-6	Instrumentation Office develops allocation and distribution plan for both Micro-B Units and Manpacks.	D
H-3	Vehicle Issue to player units. MILES hardware and Micro-B Units are pre-installed and ready for operation	E
H-2	Instrumentation Check out: MILES - LORAL Micro-B Units - GDE Vehicle Systems - BSI CIS - SAI & TAF staff (NOTE: Check out sheet prepared at both the check out point & at the CIS)	F
H-1	Instrumentation Check continued and a	

tracking list is drafted .

When the Tracking list is complete, it is transferred via the graphics table into the instrumentation system.

E

When SAI & GDE verify that the tracking list has been read into the system, and TAF displays appear in order, the initialization sequence is complete.

G

H

0400 First TAF Briefing

0500 TAF inventory and image check

0600 First mission of rotation

NOTE: The initialization of OPFOR vehicles occurs as a result of direct coordination between the Instrumentation Office, the Instrumentation Contract Team and the TAF. This normally occurs between H-5 and H-3.

APPROACH AND METHOD

Approach

The material for this report was gathered during two separate trips to the NTC. During the first site visit various records and procedures documents associated with the initialization process were located and collected. During the period between trips the material was reviewed and interview notes prepared. The second visit consisted of a series of interviews. The interviews were continued until all the key personnel involved with the initialization procedure were identified and an accurate description of the process was developed.

Method

Information from each interview was used as input in constructing a composite picture or diagram of the initialization process. Each interview led to another individual involved in the process or to a new or confirming bit of information. When conflicting information was discovered, a new series of interviews was conducted until the conflict was resolved and a clear picture was again established. When it appeared that a whole picture of the sequence of events had been completed, key personnel were asked to review and comment on its completeness and accuracy. Additional interviews were then conducted to resolve remaining questions or discrepancies.

DESCRIPTION

The start and end points in the process of NTC System Initialization are defined as starting when the rotational unit begins to develop a firm vehicle rail transportation list and ending at the start of the first tactical training exercise.

A listing of the sequence of events with supporting technical detail is included at Appendix II. The description of the process, here, is organized into three phases: Preparation, NTC in-processing, and Core instrumentation initialization.

Preparation

Four significant events occur during the preparation phase that have impact on instrumentation initialization;

- (1) The Commander of Fort Irwin and the Fort Irwin Base Operations support contract team establish the number of instrumented tracked combat vehicles that will be available for issue to the next training rotation. The Commander Fort Irwin then notifies the Commander of the next rotational Brigade of the

number, by type, of vehicles that will be available for issue during in-processing.

(2) Under the guidance and direction of the NTC Operations Group, the Rotational Brigade Commander develops a formal Brigade task organization for the NTC training period. FORSCOM regulation 350-85-10 directs that NTC training task organizations be balanced and fixed for the training period.

(3) The Instrumentation Office at the NTC uses the brigade task organization to establish an initial unit and player list. This list is later expanded into the final tracking list for initialization. (Examples of a task organization, unit/player list and tracking list can be found in Appendix II.)

(4) The Instrumentation support contractor, working in conjunction with both the Base Operations support contractor and the Commander of the Operations Group, develops a list of available operational vehicle Micro-B Units and man-portable Micro-B Units or Manpacks. These figures dictate the number of available instrumented vehicles. They also set, for planning purposes, the number of manpacks that will be issued to supplement vehicular micro-B units. The Commander of the Operations Group then issues a formal memorandum allocating and assigning manpacks by serial number. The memorandum at Tab D of Appendix II illustrates the distribution of 74, usually-available manpacks.

NTC In-Processing

When the rotational unit arrives at the NTC, it consolidates in a designated marshaling area and starts to draw and inventory assigned combat vehicles. Part of the draw process includes a technical inspection of vehicles and weapons. Systems with serious mechanical or other technical deficiencies are not accepted by the unit. During the 48 hour equipment draw the final number of instrumented and operational vehicles to be placed into training remains uncertain.

BLUFOR vehicles that are accepted by the unit and cleared for departure by the issue yard have fifteen minutes to leave the yard and proceed to the Integrated Instrumentation Checkpoint.

(NOTE: OPFOR vehicles use an instrumentation checkpoint adjacent to the OPFOR motorpool.)

The Integrated Instrumentation Checkpoint is located at a facility called "Desert Shade". This is a large "supported-roof" structure that creates shade for the check out and initialization crews. See Appendix II, tab F-2 for a diagram and other details.

A number of organizations participate at the Integrated Instrumentation Checkout (Table 3).

TABLE 3

Organizations which participate at the Integrated Instrumentation Checkout and the responsibilities of each

ORGANIZATION	RESPONSIBILITY
The Infantry Observer/Controller Team (The Green Team)	Supervise, coordinate and record the Infantry Task Force checkout.
The Armor Observer/Controller Team (The Blue Team) Force.	Supervise, coordinate and record the Armor Task checkout.
Instrumentation Support Contract Team	Assist with instrumentation checkout/repair or replace Micro-B Units, cables, etc.
MILES Support Contract Team	Assist with MILES checkout/repair or replace components as required.
The Infantry Training Analysis and Feedback Team (TAF - part of the Green Team)	Located at the Core Instrumentation facility, members assist in the checkout process.
The Armor Training Analysis and Feedback Team (TAF - part of the Blue Team)	Located at the Core Instrumentation facility, members assist in the checkout process.

When a controller starts the checkout process at Desert Shade he records information on an NTC log sheet, as shown in Table 4.

TABLE 4

Information recorded on NTC log sheet during checkout process at Desert Shade

REQUIREMENT	EXAMPLE
Vehicle Type	M-113
BSI Bumper Number (Contract vehicle number)	5332
B-Unit ID Number (Octal Notation)	1445
Unit Bumper Number	SC1 (Scout #1)
B-Unit ID Number (Decimal Notation)	0805

This information complete, the Micro-B unit is turned on and an event registration checkout is started.

Radio contact is established between the controller at Desert Shade and a TAF officer in the instrumentation center. The events listed in Table 5 are then conducted by these individuals.

TABLE 5

Events Conducted During Checkout Process at Desert Shade

TEST VEHICLE	TAF
Turn Micro-B Unit on	Confirms pick up of position/location signal
Key/un-key radio	Confirms signals
Fire Weapon at Target	Confirms signal pick up Confirms Firing Vector on the display
Controller fires "near miss" signal with control gun	Confirms signal pick up
Controller fires "Kill" signal with control gun	Confirms signal pick up
Controller re-sets or "resurrects" vehicle	Confirms signal pick up

TAF	CONTROLLER
Signals "Admin kill" from the instrumentation system	Confirms signal and kill
Signals "Admin resurrect" from the instrumentation system	Confirms signal and re-set

If all registration events are completed successfully, the log sheet is completed and the checkout starts on the next vehicle in line. A copy of a checkout sheet is at Appendix II, Tab F-3.

Instrumentation Initialization

At the end of the first day of check out procedures, copies of the log sheets are delivered to the instrumentation office. Using the log sheets, and the unit and player list developed from the Brigade task organization, the instrumentation office builds the first draft of the Tracking List.

A specially-developed piece of software is used to build tracking lists. The software program, called "BLDHIS", resides on the VAX computer system that supports NTC instrumentation.

Using "BLDHIS" the tracking list is developed linking the following data elements for each instrumented player:

Task Force designation

Company Designation

Platoon designation

Player [or vehicle] graphics identifier

Player type

Micro-B Unit [in both decimal & octal notation]

All players are normally logged in and finished with the instrumentation checkout by the end of the second day. The log sheets from the second day are taken to the Instrumentation Office and the data added to the draft tracking list. The completed tracking list is then verified by the senior officer in the TAF and the S-3 Observer Controller O/C in the field. Working vehicle by vehicle, the S-3 O/C in the field physically checks bumper number, BSI vehicle number, and Micro-B unit decimal number. The TAFO verifies these figures against the tracking list data. Corrections are made as necessary.

With these last minute corrections, the Instrumentation Office staff builds the final version of the tracking list. The TAFO for each team goes to his work station in the TAF and with a series of "pen down" steps installs the tracking list on the computer system and creates the "History File" for the new rotation. [See Appendix II, Tab G-2.]

A count of instrumented vehicles is established for the Core Instrumentation Subsystem (CIS). This count is compared to a second count made on the Range Data Measuring Subsystem (RDMS.) If the two counts are the same, the system initialization procedure is complete.

During the course of the training rotation vehicles break down, Micro-B Units fail and repair actions are required. After

each repair the Tracking List must be updated to accurately reflect the proper mix and type of vehicles. These actions are accomplished using the graphics tablet at the desk of the Training Analysis and Feedback Officer (TAFO).

CONCLUSION

This paper has cut across many different areas of NTC operations to describe the initialization process. While attempting to be detailed it has not been exhaustive in any specific area, e.g. logistics or graphics table operation, etc. where detailed operating procedures are required. To assist in future specification of details, a list of reference materials has been included at Appendix III.

APPENDIX I

LIST OF TERMS

AAR	After Action Review
AMEX	American Mexican Corps - Civilian contractor responsible for overall computer-enhanced instrumentation monitoring system.
"BLUE BOX"	Dual Channel Monitor
BSI	Boeing Services International
CIS	Core Instrumentation Subsystem
3	
C	Command, Control, Communications
CRT	Cathode Ray Tube
CSS	Combat Service Support
CS	Combat Support
DTOC	Division TOC
DEANZA	TV-like monitor through which computer graphic representations of missions are viewed at each station in CIS II.
ES	Engagement Simulation
TB	Experimental Test Bed
GDE	General Dynamics Electronics - Civilian subcontractor to AMEX
LFX	Live-Fire Exercise
LORAL	Subsidiary of Xerox Corporation; producer of MILES
MILES	Multiple Integrated Laser Engagement System
Micro-B	Component of Vehicle Instrumentation System
NCS	Net Control Station
O/C	Observer Controller
OPORD	Operations Order
OJT	On-the-job Training
P/L	Position Location

PTCC	Position Tracking and Control Component
P & O	Plans and Operations Section
PABX	Phone Access Base Exchange - Push-button telephone/ transceiver at stations at CIS II
PE	Practical Exercise
"Rotation"	The training period that a task force undergoes at NTC.
SAI	Scientific Applications, INC. - Civilian subcontractor to AMEX
TAF	Training Analysis Feedback Division
TAFO	Training Analysis Feedback Officer
VVCEC	Voice Video Control Editing Center
VT 105	A CRT on which statistical data is displayed and interactive menus are accessed. Two per station in the CIS.

APPENDIX II

SEQUENCE OF EVENTS IN THE NTC SYSTEM INITIALIZATION PROCESS

DAY	EVENT	REFERENCE TAB
H-30	The Commander of Ft Irwin notifies the next rotational unit of the number of instrumented track vehicles that will be available for issue. Vehicle availability projections developed by BSI.	A
H-8	OPS GROUP Receives Task Organization from the player Task Force. Data passed to the Instrumentation Officer and TAFO for each Task Force.	B
	Instrumentation Office develops initial player list based upon unit task organization.	C
H-6	Instrumentation Office develops allocation and distribution plan for both Micro-B Units and Manpacks. Manpack data is prepared in memorandum format for signature by the Commander of the Operations Group.	D
H-3	Vehicle Issue to player units. Miles hardware and Micro-B Units are pre-installed and ready for operation	E
H-2	Instrumentation Check out: MILES - Loral Micro-B Units - GDE Vehicle Systems - BSI CIS - SAI & TAF staff (NOTE: Check out sheet prepared at both the check out point & at the CIS)	F
H-1	Instrumentation Check continued and a tracking list prepared is "off line" at a VAX terminal by the Instrumentation Office. When the vehicle Instrumentation check	

is complete a three way verification is conducted. O/C's in the field physically check each vehicle comparing bumper number, BSI vehicle number, and decimal Micro-B unit number. This check is compared by the TAFO and the O/C S-3 against the manual roster prepared at Desert Shade, and the final Tracking List prepared by the Instrumentation Office.

When this final comparison is complete, the final TRACKING LIST is built by the Instrumentation staff using the VAX program "BLDHIS". When this TRACKING LIST is complete it is transferred via the graphics tablet into the instrumentation system.

When SAI & GDE verify that the tracking list has been read into the system, and TAF displays appear in order, the initialization sequence is complete.

G

H

0400 First TAF Briefing

- o Unit Mission
- o Concept of Operation
- o Administrative notes
- o Video and Commo update

0500 TAF inventory and image check

0600 First mission of rotation

NOTE: The initialization of OPFOR vehicles occurs as a result of direct coordination between the Operations Group, The Instrumentation Contract Team and the TAF. This normally occurs between H-5 and H-3.

TAB A presents an example of a message sent by the Commander, Fort Irwin to the Brigade Commander of the next Rotational Unit. This message provides planning data and guidelines.

PAGE 1	DTG/RELEASE TIME			PRECEDENCE		CLASS	SPECAT	LMP	CIC	ORIG/MSG IDENT
	DATE TIME	MONTH	YR	ACT	INFO					
01 of 03	111800Z	APR	85	PP	PP	UUUU				AFZJ-DCS
MESSAGE HANDLING INSTRUCTIONS										

FROM: CDR NTC FT IRWIN CA //AFZJ-DS//

TO: CDR 197TH INF BDE (MECH) (SEP) FT BENNING GA //AFVE-

XO//

INFO CDR FORSCOM FT MCPHERSON GA //AFOP-TA/AFLG-FM//

UNCLAS

SUBJECT: NTC 30-DAY EQUIPMENT ESTIMATE - 197TH INF BDE (MECH)

A. CDR NTC, AFZJ-DS, MSG 252000 FEB 85, "NTC 90-DAY EQUIPMENT ESTIMATE - 197TH INF BDE (MECH)"

B. VEHICLE INSTRUMENTATION PLAN FOR ROTATION 85-9, 22 FEB 1985

1. REF A WAS ESTIMATE IF VEGUCKES THAT WOULD BE AVAILABLE TO SUPPORT ROTATION 85-9. REF B IS THE ROTATION VEHICLE INSTRUMENTATION PLAN.

THIS MSG UPDATES BOTH REF A AND B.

2. THE FOLLOWING INSTRUMENTED TRACKED VEHICLES ARE PROJECTED TO BE AVAILABLE FROM THE NTC EQUIPMENT SUPPORT DIVISION FOR ROTATION 85-9, MAY 85. (READ IN FOUR COLUMNS)

MAJOR	ROTATIONAL		
END	BRIGADE	NTC	INSTRUMENTED
ITEM	AUTHORIZED	PROVIDES	SHORTFALL
TANK, CBT M50A3	56	56	0
CARR, TOW M901/M220	26	26	0

DD:STR: DCS OPS GP, PLANS & OPS
C, MMC ~~VEHICLE INSTRUMENTATION~~
ESD MGR, BSI

WRITER TYPED NAME, TITLE OFFICE SYMBOL, PHONE

RAYMOND J. STRILER, LTC
AFZJ-DS, 3335

SPECIAL INSTRUCTIONS

250 61 984411

TYPED NAME, TITLE, OFFICE SYMBOL AND PHONE

WILLIAM B. MERRILL, COL, DCS, 3667

SIGNATURE

William B. Merrill

SECURITY CLASSIFICATION

UNCLASSIFIED

DATE TIME GROUP

111801Z APR 85

PAGE	DATE-TIME	MONTH	YR	ACT	INFO	UUUU	AFZJ-DCS
02 of 03							

MESSAGE HANDLING INSTRUCTIONS

CARR, PERSONNEL	82	82	0
CARR, AMB M113	14	14	0
CARR, CP M577	10	10	0
CARR, RATT M577/VSC-3	2	2	0
CEV, M728	2	2	0
REV VEH, M578	4	4	0
REC VEH, M88	10	5	5

3. THE ABOVE "ROTATIONAL BRIGADE AUTHORIZED" COLUMN SHOWS ONLY INSTRUMENTED QUANTITIES. NON-INSTRUMENTED QUANTITIES ARE NOT INCLUDED. SPECIFIC BY POSITION INFORMATION CONCERNING WHICH TRACKED VEHICLES ARE TO BE INSTRUMENTED OR NON-INSTRUMENTED HAS BEEN PROVIDED IN THE VEHICLE INSTRUMENTATION PLAN FOR YOUR ROTATION. UNITS SHOULD PLAN ON SHIPPING TO THE NTC BOTH THE INSTRUMENTED VEHICLE SHORTFALL AND ALL OTHER NON-INSTRUMENTED VEHICLES EXCEPT AS NOTED IN PARA 4 BELOW. TRACKED VEHICLES BROUGHT FROM HOME STATION WHICH REQUIRE MILES MUST COME WITH VELCRO AFFIXED IAW THE MILES MANUAL. INSTRUMENTED TRACKED VEHICLE QUANTITIES SHOWN IN THIS MSG ARE BASED ON REQUIREMENTS FOR A DIV 86 CONFIGURED ROTATIONAL BRIGADE.

4. ADDITIONAL ITEMS OF EQUIPMENT TO BE PROVIDED BY NTC. (READ IN TWO COLUMNS)

DISTR:	
<p>DRAPER TYPED NAME, TITLE, OFFICE SYMBOL, PHONE</p> <p>SPECIAL INSTRUCTIONS</p>	
<p>TYPED NAME, TITLE, OFFICE SYMBOL AND PHONE</p> <p>WBM</p>	
<p>SIGNATURE</p> <p><i>WBM</i></p>	<p>SECURITY CLASSIFICATION</p> <p>UNCLASSIFIED</p>
<p>DATE TIME GROUP</p> <p>111801Z APR 85</p>	

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BOOK	MESSAGE HANDLING INSTRUCTIONS
------	-------------------------------

MAJOR END ITEM	QUANTITY
TRK, M885 WATER-32	2
TRK, WATER, 1000 GAL, MSD	5
FORKLIFT, R/T, 10K	5
REEFER, VAN, 9000BTU (UNIT PROVIDES PRIME MOVERS)	2
PADS (UNIT PROVIDES JEEP)	1
AVLB (UNIT PROVIDES LAUNCHERS)	2
TRLR, ASL VAN (UNIT PROVIDES PRIME MOVERS)	5
WASTE OIL POD, 600 GAL (UNIT PROVIDES 1 1/2 TON TRAILER)	5
BATH UNIT & SHOWER HEADS, PORTABLE (NOTE 1)	1
LAUNDRY UNIT PORTABLE TRAILER MOUNTED 60 LB CAPACITY (NOTE 1)	1

NOTE 1. (UNIT PROVIDES OPERATORS, GENERATOR, TENTAGE, PRIME MOVERS, AND MISC LAUNDRY SUPPLIES).

5. POC THIS HQ IS LTC STRILER, SPT LNO, AV 470-3335.

DISTR:	
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DRAFTER TYPED NAME, TITLE, OFFICE SYMBOL, PHONE		SPECIAL INSTRUCTIONS	
WBM			
TYPED NAME, TITLE, OFFICE SYMBOL AND PHONE		SECURITY CLASSIFICATION	DATE TIME GROUP
WBM		UNCLASSIFIED	111801Z APR 85

TAB B presents two sets of materials:

B-1 is an example of a unit task organization plan extracted from an operations order. Written comments are TAFO planning notes for setting up the graphics tablet.

B-2 is extracted from the existing SOP from TAF-2. Duties described are considered correct.

Annex B (Task Organization for MTC) to CPLA: A (Preparation)

1-58 Mech

TF 1-58

1-58 Mech (-)
 A/15 CAV (Tank Company)
 B/2-69 AR
 2nd Plt/72 Engr
 1 GSN Squad
 5 Redeye TMS
 FSE
 AT Co ?

TF 3-7

3-7 Mech (-)
 A/2-69 AR
 D/2-69 AR
 1st Plt/72 Engr
 1 GSN Squad
 5 Redeye TMS
 FSE
 AT Co ?

*BDE CONTROL

2-10 FA Bn (-)
 197th Spt Pn (-)
 72d Engr Co (-)
 D/229 ATK Hel Co
 C/4-1st ADA (Chap/Vuk)
 Redeye Plt (-)
 298 Sig
 179 MID (-) GSN
 HHC Bde
 169 & 171 Chem
 Comp. Plt, 311 MI Bn
 197th Avn Det
 197th MP Plt
 1-84th Chem Smoke Co
 485 MI Det (-)
 Det 4, 507 TAIRCW

*Attached unit designation under Bde control have not been finalized.

Button Unit
 A F 1-58 Mech
 B B/2-69 AR
 C C 1-58 mech
 D A- 1-58 Mech
 CA A/15 CAV

Button
 A A 3-7 Mech
 B AT/3-7 Mech
 C C 3-7 mech
 D D 2-69 AR
 CA A/2-69 AR

3A1

Instrumentation Responsibilities.

1. Introduction: The Personnel Management Plan for the NTC Operations Group, 15 Aug 80, envisioned the now defunct Exercise Management Section participating in instrumentation operations extensively. Since the advent of the Plans and Operations Division, instrumentation operations have been almost exclusively a TAF function. As the instrumentation system comes on line, reassessment of instrumentation responsibilities is necessary to ensure effective operations are conducted.
2. Instrumentation responsibilities have been assigned as follows:
 - a. Plans and Operations Division:
 - (1) Input OPFOR graphics into the computer. TAF will assign a block of twenty control measure numbers to accomplish graphics input.
 - (2) Inventory OPFOR vehicles. Using the regimental deadline report provided by the OPFOR, Plans and Operations will inventory the OPFOR vehicles displayed by bumper number. Problems will be resolved with the OPFOR LNC. The deadline report will be forwarded to the TAF Instrumentation Officer and CIS I and II Combat Training Analysis Officers.
 - (3) Receive, analyze, post and maintain OPFOR orders on file. Provide CIS I and II orders, as required. TAF Artillery will be provided the OPFOR fire support plan.
 - (4) Receive, analyze, post and maintain BLUEFOR Brigade orders. Provide CIS I and II orders, as required. TAF Artillery will be provided the Brigade fire support plan.
 - (5) Provide BLUEFOR task organization (Task Force) to the Instrumentation Officer two weeks prior to the rotation.
 - (6) Determine and maintain OPFOR notional artillery locations on the situation maps. Provide to TAF Artillery and the OPFOR regimental headquarters the locations of the artillery units. (See 2b[7])
 - (7) Kill and resurrect OPFOR vehicles in accordance with the rules of engagement.
 - (8) Process BLUEFOR attack helicopter/CAS engagements against the OPFOR. Assess OPFOR casualties, as required. Conversely, process OPFOR of BLUEFOR helicopters and CAS.
 - (9) Take action against OPFOR units/vehicles out of sector by either warning the OPFOR or assessing casualties from friendly or enemy adjacent unit fire.
 - (10) Assist O/Cs in assessing OPFOR minefield casualties, if required.

(11) Resurrect OPFCR players.

b. Training Analysis Feedback Division:

- (1) Conduct instrumentation checks on OPFOR vehicles.
- (2) Task organize each instrumented task force in accordance with the unit task organization.
- (3) Instrument/uninstrument players.
- (4) Move uninstrumented players on the graphic display.
- (5) Move players from one history to another.
- (6) Input BLUEFOR graphics.
- (7) Input and move OPFOR notional artillery locations.
- (8) Input and process FASCAM minefield missions.
- (9) Input and control all WHITEFOR into the computer.
- (10) Receive, process and maintain BLUEFOR task force orders.
- (11) BLUEFOR control:
 - (a) Take action, in conjunction with C/Cs and TAFO guidance, on out of sector BLUEFOR units/vehicles.
 - (b) Kill BLUEFOR only on order of TAFO.
 - (c) Resurrect BLUEFOR as required, based upon coordination with O/C.
 - (d) Inventory BLUEFOR.
 - (e) Assist C/Cs in assessing BLUEFOR casualties from CPFCR minefields as directed by TAFO.
- (12) Input OPFOR NBC graphics.
- (13) Process CPFCR attack helicopter and CAS engagements against the BLUEFOR in conjunction with O/Cs and TAFO.
- (14) Process artillery missions IAW Annex L to this SCP, to include:
 - (a) BLUEFOR artillery on BLUEFOR.
 - (b) OPFCR artillery on BLUEFOR.
 - (c) BLUEFOR artillery on OPFOR.

TAB C is a constructed facsimile of a unit and player list. This list forms the first part of the tracking list developed during system initialization.

This is the Blue Task Organization
for file 8509A0

Player Instrumentation
Type Decimal/Octal

Player

Platoon

Company

Battalion

1ST-050 (20)

SCT/1ST-058 (56)

SCT

SC2

SC3

ST1

ST2

ST3

4-27TST-058 (57)

FD1

FD2

MANP/1ST-058 (60)

VL1

VL2

VL3

VL4

ENG/1ST-058 (61)

E01

E02

E03

CEV

TOC/1ST-058 (55)

AF1

AF2

AF3

AF4

AF5

AF6

AF7

CDR

H06

H05

H03

S02

TOC

ARTY/1ST-056 (06)

DSA

TAB D presents an example of an Operations Group Memorandum that outlines the actions and responsibilities of various units concerning Manpack and Micro-B Units. The Manpack assignment tables contained in this memo become a critical part of system initialization and subsequent player tracking.

REFERENCE OR OFFICE SYMBOL

SUBJECT

ATXY-TAF

Manpack Distribution

TAF2

TO	FROM	DATE	CMT1
SEE DISTRIBUTION	Chief, Operations Group	30 April 85 CPT Bielefeldt/lk/5092	

1. The following is the NTC-IS Manpack distribution for the May training period. Manpacks will be issued to designated elements and assigned to specific positions in accordance with this plan.

2. BLUFOR elements will be issued Manpacks by GDSC (General Dynamics Service Co) on 5 May 85 at 1300 hrs to 1400 hrs at unit box cars in the BSI issue area. The designated company will then receipt Manpacks to the designated user. HHC will hand-receipt Manpacks for all attached elements.

3. OPFOR Manpacks will be issued at GDSC trailer.

4. Manpacks with an asterisk (*) are equipped with a man-worn laser detector (MWLD).

5. Battery Distribution:

a. Operations Group support section will deliver the initial issue of lithium batteries for installation to unit box cars in BSI issue area on 5 May 85 at 1300 hrs to 1400 hrs. The designated company will then receipt batteries from Ops Group support section and for issue to designated user. BLUFOR units will be resupplied with batteries by assigned O/Cs in the field. Manpacks must be turned off prior to battery replacement or substitution.

b. Observer Controllers (OC) will draw Manpacks and batteries from the Operations Group Support Section (Bldg. 930, Phone 5023).

c. OPFOR elements will draw batteries from their respective supply sections and requisition as appropriate.

d. All batteries must be accounted for and returned to the initial source of issue at the end of the training period.

e. Average battery life is twenty-four (24) hours.

6. All Manpacks must be mounted in an upright position on the exterior of assigned vehicles when vehicles report for instrumentation checkout. Manpacks assigned for dismounted operations must be carried during all dismounted operations. If a Redeye or Dragon is dismounted or moved to another vehicle, the assigned Manpack must remain as part of Redeye or Dragon.

7. All Manpacks will undergo instrumentation checkout during the times designated for vehicle instrumentation checkout. O/Cs will verify that Manpacks are distributed and in possession of designated users.

8. Manpacks will be turned in to GDSC at the Desert Shade on the north side of the issue yard on day two of turn-in beginning at 0900 hours. Batteries will be turned in at building 930 supply room.

86

ATXY-TAF

30 April 1985

SUBJECT: Manpack Distribution

9. POC: CPT Bielefeldt, Phone 5092.

for Warren F. Haugen LTC XO
WESLEY K. CLARK
COL, AR
Commander, Operations Group

DISTRIBUTION:

1 COG
2 TAF 1
2 TAF 2
2 Fire Support Division
2 SMOKE PLT
15 O/C TEAMS
2 SUPPORT SECTION
2 // 6/31
2 // 1/73
10 GDSC
2 DCS
2 MILES WAREHOUSE
2 COR
6 MECH TASK FORCE (1-58)
6 MECH TASK FORCE (3-7)
2 P&O
2 Artillery Unit

UNIT QUANTITY	MANPACK NUMBER	SERIAL	VEHICLE POSITION	ISSUE TO
<u>OPFOR</u>	14			
		001	MP 1	6/31st
		002	MP 2	"
		003	MP 3	"
		004	MP 4	"
		006	MP 6	"
		009	MP 9	"
		010	M 10	"
		012	M 12	"
		098	M 98	"
		044	M 44	"
		096	M 96	"
		097	M 97	"
		005	MP 5	"
		015	M 15	"

OPS GROUP

LIVE FIRE O/C	3	093	D 15	OPS GROUP
		088	D 17	"
		063	D 20	"
ARMOR O/C	3	030	C 15	"
		099	C 20	"
		100	C 20A	"

UNIT QUANTITY	MANPACK NUMBER	SERIAL	VEHICLE POSITION	ISSUE TO
INFANTRY O/C	4	031	S 15	"
		107	S 20	"
		055	S 20A	"
		071	S 02	"
FIRE MARKERS	12	095	21 N	TAF ARTY
		011	21 F	"
		105	21 G	"
		085	21 H	"
		078	21 I	"
		017	21 J	"
		064	21 K	"
		062	21 L	"
		033	21 O	"
		046	21 P	"
		094	21 Q	"
		019	21 A	"
SMOKE PLATOON	6	022	64 H	SMK PLT
		023	64 G	"
		024	64 I	"
		025	66 I	"
		026	66 G	"
		027	66 H	"

UNIT QUANTITY	MANPACK NUMBER	SERIAL	VEHICLE POSITION	ISSUE TO
ARTY BN	3	113	DSA	A BATTERY
		047	DSB	B BATTERY
		112	DSC	C BATTERY

1-58th MECH TASK FORCE

CDR	1	073	CDR	HHC
VULCAN	4	119	VL1	HHC
		013	VL2	"
		056	VL3	"
		058	VL4	"

INFANTRY PLATOONS DISMOUNTED (OPS)

6*	111	GA1	A CO
*	117	GA2	"
*	007	GA3	"
*	103	GC1	C CO
*	118	GC2	"
*	110	GC3	"

UNIT QUANTITY	MANPACK NUMBER	SERIAL	VEHICLE POSITION	ISSUE TO
<u>3-7th MECH TASK FORCE</u>				
VULCAN	4	035	VL1	HHC
		051	VL2	"
		042	VL3	"
		048	VL4	"
INFANTRY PLATOON (DISMOUNTED OPS)				
	6*	037	GA1	A CO
	*	068	GA2	"
	*	045	GA3	"
	*	075	GC1	C CO
	*	089	GC2	"
	*	091	GC3	"
GSR	3	074	GR1	HHC
		061	GR2	"
		059	GR3	"
AT PLATOON LEADER	3	060	E16	E CO
		077	E26	"
		032	E36	"
AT TOWS	2	083	E13	E CO
		016	E23	"

TAB E presents two logistics planning sheets that illustrate vehicle issue schedules and instrumentation check out. Additional logistics information is available in the document entitled the "Rotational Brigade Equipment Reference Data Guide". This document is issued to all scheduled rotational units.

E-1 is extracted from the NTC Support Letter of Instruction. It schedules both unit advance party activities and unit vehicle issue activities.

E-2 is an example of the NTC 20 day rotation sequence. In May 1985 a 24 day rotation schedule was started. This schedule will be available in the near future.

ANNEX C (ARRIVAL & EQUIPMENT ISSUE SEQUENCE) to NTC SPT LOI

<u>ADVANCE PARTY</u> <u>DAY 1</u>	<u>ADVANCE PARTY</u> <u>DAY 2</u>	<u>ADVANCE PARTY</u> <u>DAY 3</u>	<u>ADVANCE PARTY</u> <u>DAY 4</u>
ADVANCE PARTY ARRIVES	MAINTENANCE/SUPPLY ORIENTATION CLASSES	EQUIPMENT PCOL ISSUE	VEHICLE FLEET INVENTORY
OPEN SUPPLY ACCOUNTS	OPEN SUPPLY ACCOUNTS	BOX CAR ISSUE	PLL ISSUE
DCS ORIENTATION BRIEFING	EQUIPMENT POOL ISSUE	ASL ISSUE	ASL ISSUE
BEGIN TRAIN OFF-LOAD	TRAIN OFF-LOAD	MILES ISSUE	TURN-IN/CLASS IX BRIEFBACK
		TRAIN OFF-LOAD COMPLETED	MILES INSTALLATION ON BROUGHT-BY-UNIT VEHICLES
			MANPACK ISSUE
			MILES ISSUE
			MAIN BODY CLOSSES

ISSUE DAY 1

VEHICLE FLEET
LINE TI & ISSUE

PLL ISSUE

CREW SERVED
WEAPONS ISSUE

MILES INSTALLATION
ON BROUGHT-BY-UNIT
VEHICLES

INTEGRATED
INSTRUMENTATION
CHECK

ISSUE DAY 2

VEHICLE FLEET
LINE TI & ISSUE

CREW SERVED
WEAPONS ISSUED

MILES INSTALLATION
ON BROUGHT-BY-UNIT
VEHICLES

INTEGRATED
INSTRUMENTATION
CHECK

TRAINING DAY 1

INTEGRATED
INSTRUMENTATION
CHECK (WRAP UP)

MOVE TO FIELD

BEGIN TRAINING

ANNEX A (20-DAY ROTATION MODEL) to NTC SPT LOI

FFT = Force-on-Force Training LFT = Live Fire Training

<u>DAY</u>	<u>TF1</u>	<u>TF2</u>
	Advance Party	Advance Party
Day 1	Draw Vehicles	Draw Vehicles
Day 2	Draw Vehicles	Draw Vehicles
Day 3	Move/FFT	Move/FFT
Day 4	FFT	FFT
Day 5	FFT	FFT
Day 6	FFT	FFT
Day 7	LFT*	FFT
Day 8	LFT*	FFT
Day 9	LFT	FFT
Day 10	LFT	FFT
Day 11	LFT	FFT
Day 12	FFT	LFT*
Day 13	FFT	LFT*
Day 14	FFT	LFT
Day 15	FFT	LFT
Day 16	FFT	LFT
Day 17	Maint/Turn-in	Maint/Turn-in
Day 18	Maint/Turn-in Redeploy	Maint/Turn-in Redeploy
Day 19	Maint/Turn-in Redeploy	Maint/Turn-in Redeploy
Day 20	Maint/Turn-in Redeploy	Maint/Turn-in Redeploy
	Rear det./Redeploy	Rear det./Redeploy

*Rear Assembly Area/Range 17

TAB F presents material relevant to the vehicle and instrumentation checkout procedure.

F-1 The material presented is extracted from the TAF 2 SOP and addresses the duties and responsibilities of specific members of the staff during the instrumentation checkout.

F-2 Two sheets have been presented from the NTC Support Letter of Instruction. This material contains diagrams of "Desert Shade" area and addresses the transition from the equipment issue to the instrumentation checkout.

F-3 This material is a copy of an actual checkout log filled in during a 1985 rotation.

Instrumentation Checkout Operations

1. TAF/C³: Receives dates for CPFCR and BLUEFCR instrumented vehicles checkout from the TAF Instrumentation Officer. Provides dates to CIS II Assistant S³, Training.
 - a. Instrumentation Officer is responsible for insuring contractor support is available at the checkout point and in the PTCC.
 - b. Instrumentation Officer is single point of contact for coordination with the CPFCR during checkout.
2. Initial Planning:
 - a. C³ Analyst:
 - (1) Obtains unit task organization from Combat Training Analysis Officer or Instrumentation Officer and estimates requirements for manpacks to insure all operating systems are instrumented.
 - (2) Coordinates with Instrumentation Officer in development of the Manpack Distribution List.
 - (3) Obtains from Instrumentation Officer:
 - (a) Instrumented Track Vehicle Listing.
 - (b) Tracking List.
 - (c) Manpack Distribution List.
 - (4) Coordinates and implements all changes to checkout for CIS II.
 - (5) Provide detailed briefing to designated team chiefs.
 - b. S1:
 - (1) Insures adequate supply of checkout sheets (Annex D) are on hand for distribution.
 - (2) Insures reproduction capability is available during checkout period.
 - c. S3 Training:
 - (1) Develops and publishes team schedule for checkout.
 - (2) Insures personnel requiring system training are identified and scheduled for that training.
 - d. S4/Transportation Officer:
 - (1) Insures transportation is available and operational.

(2) Insures radio is available and operational.

(3) Provides supplies as required.

e. Team Chiefs:

(1) Schedule team personnel for checkout.

(a) OPFCR checkout: Minimum of one trained individual to man the PTCC.

(b) BLUEFCR checkout: Minimum of one trained individual for PTCC and one trained individual for the checkout point.

(2) Insure a detailed briefing regarding all aspects of checkout procedures is given to team members.

f. Commo Coordinator: Obtains and verifies frequencies for checkout, and insures those frequencies are distributed to all Team Chiefs.

3. Procedures:

a. C³ Analyst:

(1) Single point of contact for resolution of all problems.

(2) Obtains copy of daily Tracking List from Instrumentation Officer.

(3) Consolidates and maintains all checkout sheets for CIS II.

(4) Conducts final coordination with Deputy C/C, Maneuver, to verify/purify checkout sheets; insures all names of vehicles/manpacks are verified.

(5) Provides verified, complete checkout list to Instrumentation Officer and Combat Training Analysis Officer.

(6) Prior to 1st mission, provides copy of Tracking List/checkout sheets to each station.

(7) The TAFC and C³ Analyst, CIS II is the only authority for changes to manpack distribution for the Armor Task Force.

b. Teams:

(1) PTCC:

(a) Insures one trained individual is on duty in PTCC throughout scheduled checkout periods.

(b) Assist GDE:

- interacts with C/Cs/analysts at checkout point via radio.

- obtains data and complete forms provided by GDE, leaving forms with GDE at close of business daily.

(c) Keeps C³ Analyst informed of checkout status (number of vehicles complete, any deviations from original plan [i.e., manpack distribution, unit vehicle substitutions, unit not drawing assigned vehicles, loss of communications, lack of contractor support at checkout site or PTCC, unit no shows, etc.]).

(2) Checkout Point:

(a) Insures minimum of one trained individual is at the checkout point NLT 30 minutes prior to start of checkout to conduct: Commo check with PTCC, insure adequate line set-up, coordinate with GDE for availability of assigned manpacks. (Manpacks are to be issued with batteries.)

(b) Picks up Daily Tracking List from C³ Analyst before start of checkout each day.

(c) Keeps PTCC informed of all problems at checkout point.

(d) Coordinates and works with O/Cs to obtain and verify all data required for checkout sheets (Annex D). Insures data is entered legibly and accurately in the appropriate columns of the form. Utilize 0 for zero, 1 for one, 7 for seven when recording numbers.

(e) At GDE daily, the last CIS II member with the checkout sheets will make 2 Xerox copies of those sheets. Disposition of the originals and copies:

- Original checkout sheets passed on to relieving team for continuation of checkout the next day.

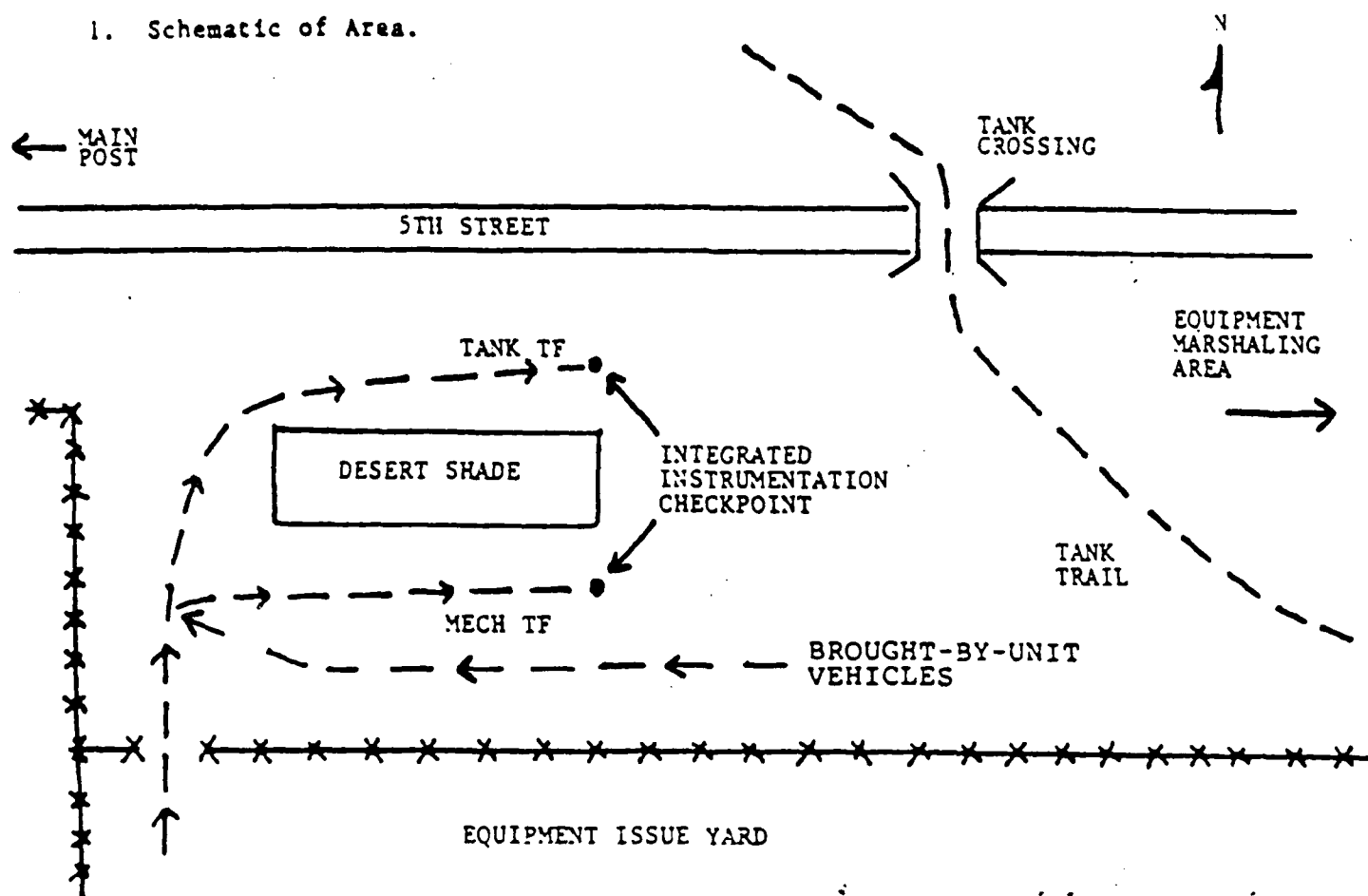
- One copy left with C³ Analyst.

- One copy left with Instrumentation Officer.

(3) Team Chiefs will insure relieving teams are provided a detailed briefing regarding all aspects of checkout occurring during their shift.

ANNEX F (INTEGRATED INSTRUMENTATION CHECKOUT) to NTC SPT LOI

1. Schematic of Area.



2. Procedures.

a. All MILES-equipped vehicles, instrumented vehicles and instrumentation manpacks must report to the designated battalion task force checkpoint for a complete system check. Manpacks assigned to a vehicle or DRAGON must go through the checkpoint with that vehicle or DRAGON.

b. The NTC will establish and man the checkpoints. NTC Ops Gp will conduct the checkouts and verify/record vehicle assignments for both NTC and brought-by-unit vehicles. A MILES contact team and instrumentation contact team will be available to make on-the-spot corrections.

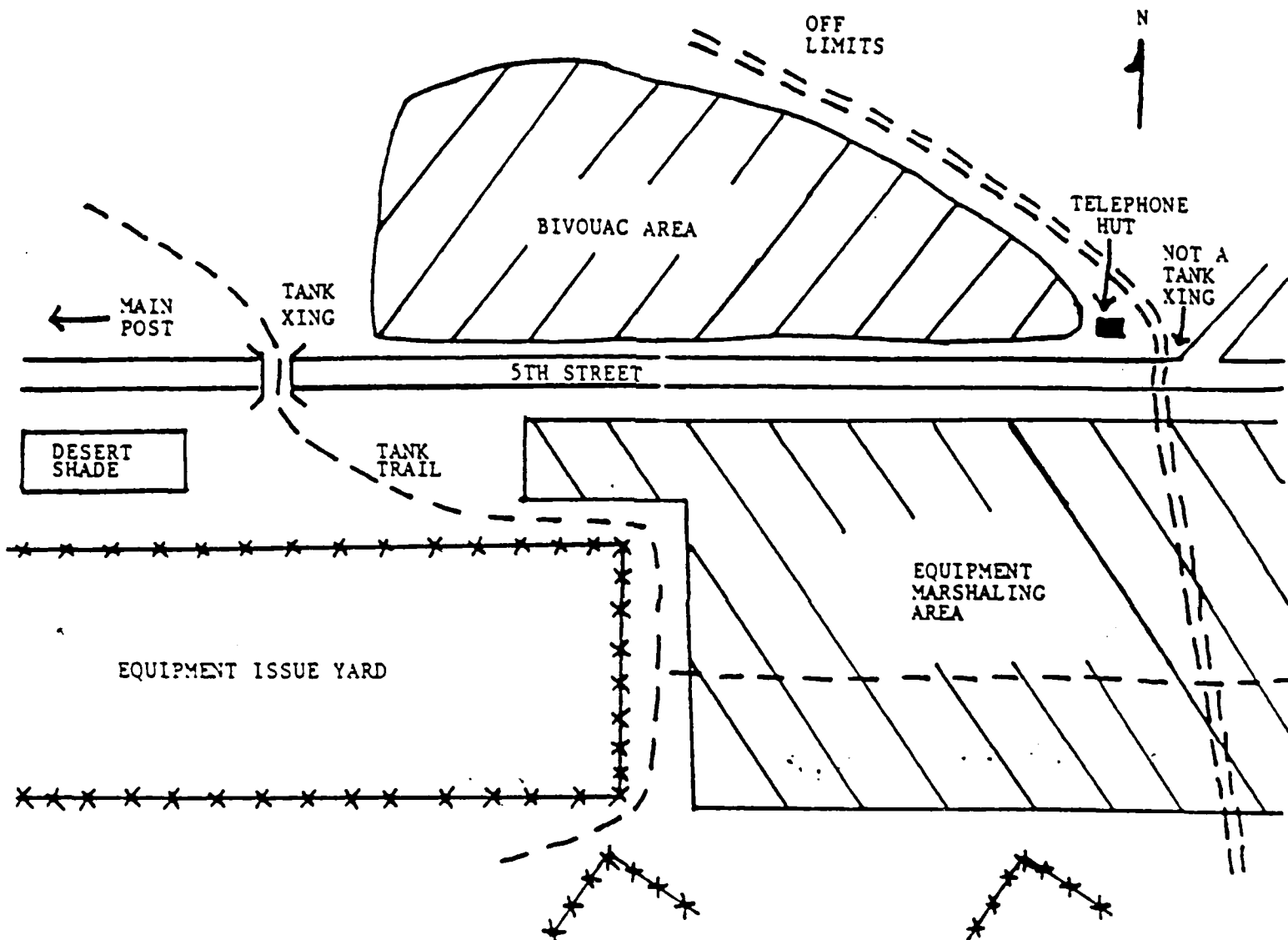
c. The battalion task force must be prepared to correct any automotive, communications and fire control problems discovered during the checkout.

d. To avoid a bottleneck at the checkpoint, the following rules apply.

(1) Vehicles have 15 minutes to depart the equipment issue yard once accepted and cleared for departure. Units must not attempt to have all their vehicles leave the issue yard at one time. They will only wait in line longer.

ANNEX G (MARSHALING AND BIVOUAC AREA) to NTC SPT LOI

1. Marshaling and Bivouac Area Schematic.



2. Procedures.

a. IMPORTANT - Rotational units must employ a quartering party as they would before moving into any new location. The quartering party should layout and mark both the bivouac and marshaling areas before occupation. Particular attention must be paid to the equipment marshaling area to ensure that vehicles have ample space to park and move in and out of the area in a safe manner.

b. Personnel must sleep in the designated bivouac area.

c. Both NTC and brought-by-unit vehicles will be marshaled in the designated equipment marshaling area. Tracked vehicles are not permitted in the bivouac area.

ARMOR

UNIT / HMC / 1-52X

(TF 1-52)

CIS-II-1

BGT NUMBER	B-UNIT ID NUMBER OCTAL	UNIT BUMPER NUMBER	MILES CHECK		EVENT REGISTRATION									NOTE
			MANUAL MILES CHECKS DECIMAL	B-UNIT "ON"	COMMO	POS LOC	WPNS FIRE	ADMN KILL	ADMIN RESUR	CONT N/M	CONT KILL	CONT RESUR		
0000	1576	H66	874	✓	✓	✓	-	✓	✓	✓	✓	✓		
		H65												
0001	1558	H63	875	✓	✓	✓	-	✓	✓	✓	✓	✓		
0002	1662	QPR	946	✓	-	✓	-	-	-	-	-	-		
0003	1522	S62	732	✓	✓	✓	-	✓	✓	✓	✓	✓		
0004	1525	TDC	661	✓	✓	✓	-	✓	✓	✓	✓	✓		
0005	1641	SH	(929)	✓	NO B-unit GDE check-out									
0006	1521	RTT	977	✓	✓	✓	-	✓	✓	✓	✓	✓		
0007	1500	EV1	✓	-	-	-	-	-	-	✓	✓	✓		
0008	1500	EV2	✓	-	-	-	-	-	-	✓	✓	✓		
0009	1500	EV3	✓	-	-	-	-	-	-	✓	✓	✓		
0010	1500	EV4	✓	-	-	-	-	-	-	✓	✓	✓		
0011	1500	EV5	✓	-	-	-	-	-	-	✓	✓	✓		
0012	1500	EV6	✓	-	-	-	-	-	-	✓	✓	✓		
0013	1500	EV7	✓	-	-	-	-	-	-	✓	✓	✓		
0014	1500	EV8	805	✓	✓	✓	-	✓	✓	✓	✓	✓		
0015	1500	EV9	587	✓	✓	✓	✓	✓	✓	✓	✓	✓		
0016	1500	EV10	922	✓	✓	✓	-	✓	✓	✓	✓	✓		
0017	1500	EV11	502	✓	✓	✓	✓	✓	✓	✓	✓	✓		
0018	1500	EV12	602	✓	✓	✓	-	✓	✓	✓	✓	✓		
0019	1500	EV13	951	✓	✓	✓	✓	✓	✓	✓	✓	✓		
0020	1500	EV14	661	✓	✓	✓	-	✓	✓	✓	✓	✓		

II-F-7

TAB F-3

(TF 1-56)

CIS-II-:

II-F-8

UNIT E/ 1-58X (AT-TOW) (TF 1-58)

CIS-II

E	RSI NUMBER	B-UNIT ID NUMBER	UNIT BUMPER NUMBER	MILES CHECK		EVENT REGISTRATION								H
				MANUAL MILES CHECKS	B-UNIT "ON"	COMMO	POS LOC	WPNS FIRE	ADMIN KILL	ADMIN RESUR	CONT N/M	CONT KILL	CONT RESUR	
3			E66											
3		UNINST	E65											
3		UNINST	E83											
2		UNINST	E88											
01			E11											
01			E12											
01			E13											
01			E14											
3		UNINST	E16											
01			E21											
01			E22											
01	816	1640	E23	928 ✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
01			E24											
3		UNINST	E26											
01			E31											
01			E32											
01			E33											
01			E34											
03		UNINST	E36											

UNIT A / 1-58 MECH

(TF 1-58)

CIS-II-

BSI BUMPER #	B-UNIT ID NUMBER	UNIT BUMPER NUMBER	MILES CHECK		EVENT REGISTRATION									NO.
			MANUAL MILES CHECKS	B-UNIT "OK"	COMMO	POS LOC	WPNS FIRE	ADMIN KILL	ADMIN RESUR	CONT N/M	CONT KILL	CONT RESUR		
3	4231	1465	166A	773	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3	4231	1230	165A	664	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3		UNINST	89A											
3		UNINST	89A											
3			16A											
13	5211	1574	11A	892	✓	✓	✓	✓	✓	✓	✓	✓	✓	
13	5323	UNINST	12A	✓	—	—	—	—	—	—	✓	✓	✓	
13	5901	UNINST	13A	✓	—	—	—	—	—	—	✓	✓	✓	
13	111	1655	6A1	941	✓	—	✓	—	—	—	✓	✓	✓	
13			26A											
13	6041	1335	21A	733	✓	✓	✓	✓	✓	✓	✓	✓	✓	
13	5520	UNINST	22A	✓	—	—	—	—	—	—	✓	✓	✓	
13	5510	UNINST	23A	✓	—	—	—	—	—	—	✓	✓	✓	
13			6A2											
13	5522	1437	36A	543	✓	✓	✓	✓	✓	✓	✓	✓	✓	
13	5520	1762	31A	1010	✓	✓	✓	✓	✓	✓	✓	✓	✓	
13	5224	UNINST	32A	✓	—	—	—	—	—	—	✓	✓	✓	
13	5220	UNINST	33A	✓	—	—	—	—	—	—	✓	✓	✓	
13	5074	1265	6A3	643	✓	—	✓	—	—	—	✓	✓	✓	
13			AT1											
13			AT2											

(TF 1-55)

II-F-11

(TF 1-52)

II-F-12

UNIT 2/15 NOV 1

(F-100)

CIS-1

[illegible]

CIS-II-:

II-F-14

TAB G presents material relevant to the process of final instrumentation initialization.

G-1 Material has been extracted from the TAF 2 SOP that outlines the duties, responsibilities and procedures required to create and transfer to the computer the completed tracking list.

G-2 A copy of the first two pages of the program printout generated by the software "BLDHIS".

Tracking List Preparation

1. Purpose: This annex defines duties, responsibilities, and procedures required to assemble input data and create a data base which supports the fourteen (14)-day rotational training period and each tactical mission.
2. Definitions:
 - a. System Initialization: Those activities associated with collection and assembly of information required to create an Initialization File and open a fourteen (14)-day history.
 - b. Initialization File (also called Tracking List): A computer data file consisting of two parts, a unit list and a player list. The unit list defines for the computer units involved in the fourteen (14)-day training exercise. The player list defines for the computer players associated with each unit in the Tracking List.
 - c. Unit List: That part of the Initialization File consisting of units assigned, attached, or in support of the battalion under training or CPFCR units supporting the training exercise.
 - d. Player List: That part of the Initialization File consisting of players participating in training or supporting the training exercise.
 - e. Unit: An element of the unit list portion of the Initialization File which defines to the computer an organization found on the battlefield. Examples of units are platoons, companies, combat trains, or field trains. A unit may or may not have players associated with it. If a unit does have players associated with it, those players may be either instrumented or uninstrumented. Each unit may or may not be designated to have statistics gathered for it.
 - f. Player: An element of the player list portion of the Initialization File which defines to the computer an individual entity on the battlefield. Examples of a player are tanks, armored personnel carriers, trucks, or individual soldiers. All players must be assigned to a unit as defined in the unit portion of the Initialization File. A player may or may not contribute to the center of mass for the unit and may or may not be instrumented, i.e., equipped with position location instrumentation. Players on the player list are designated as Blue - US, Red - CPFCR, or White - neutral.
 - g. History Initialization: A process of using the History Initialization/Termination Interactive Menu. The result of this process is an open history.
 - h. History Termination: A process of using the History Initialization/Termination Interactive Menu. Upon completion of this menu the selected history is closed and no further data can be input into the history file. Prior to termination of a history, all stations must select "no history" in the History Segment Selection Menu.

- i. History Deletion: A process of using the History Initialization/Termination Interactive Menu. The result of this menu is elimination of the selected closed history from the computer files. Prior to deletion of a history, it must be closed and all stations must be out of it. Coordination with the Instrumentation Operations Section must be made to insure the history is saved prior to deleting the history.
- j. History Segment Selection: A process using the History Segment Selection Interactive Menu by which the analyst chooses the history and exercise segment he wants to observe. The analyst may select either an exercise segment that is completed and is stored in history, or he may select the segment showing the current or realtime data.
- k. Exercise Segment: An Exercise Segment may be closed (completed) or open in a real or null. A closed segment is a period of the 14-day training exercise which is recorded in the history. A real segment displays current activity and is recorded as part of the history. A null segment displays current activity but is not recorded as part of the history.
- l. Exercise Segment Definition: The process of using the Exercise Segment Definition Interactive Menu to define a real or null exercise segment. The definition of a real segment requires prior gathering of data for input into the computer system. This data includes the following:
 - (1) Data/time group
 - (2) Scenario number
 - (3) Type of mission
 - (4) Visibility data
 - (5) Time of mission (day/night)
 - (6) Levels of intensity for Red and Blue forces in 11 different categories
 - (7) Unit identification
 - (8) Training objectives
 - (9) Elements of information correlated to observer controller who will report on them
 - (10) Vehicle status for all units
 - (11) Personnel status for all units

3. Responsibilities:

a. Instrumentation Operations Section:

- (1) Assembles information and prepares Initialization File.
- (2) Maintains the Tracking List in the current open histories and in the Initialization File.
- (3) Coordinates the recording (backup) of the history to magnetic tape and deletes the history.

b. Tactical Command-Control-Communications Analyst (C³):

- (1) Conducts the MILES and instrumentation system checkout prior to the start of the fourteen-day exercise.
- (2) Provides the Instrumentation Operations Section the relationship of the vehicle administrative number to line organization for Blue Force.

4. Procedures:

- a. Prior to the start of the rotation, the Instrumentation Operations Section will coordinate with Plans & Operations to determine the task organization of the units under training. This will be used to develop the unit portion of the Initialization File.
- b. The data received from the C³ Analyst will be used to verify the Blue Force player list.
- c. Not later than 1200 hours the day the Battalion task force moves to its initial assembly area, the Instrumentation Operations Section will advise the Combat Training Analyst that the Initialization File is complete and the history may be opened.
- d. After coordination with the Instrumentation Operations Officer, the Combat Training Analyst will open the history. The Combat Training Analyst will create real and/or null segments as required to support the fourteen-day training period.
- e. At the end of the fourteen-day training period, the Combat Training Analyst will terminate the history and advise the Instrumentation Operations Section.
- f. The Instrumentation Operations Section will coordinate the preparation of backup tapes for the history and delete the history as required.

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 S BLDHIS ORGNIZ 7-MAY-1985 07:52 LPAO: 7-MAY-1985 07:53 DISK\$NTCUSER1:[NTC.STRCTR.GENERATE
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3333 L DDD H H III SSS
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000000 RRRRRRRR GGGGGGGG NN NN IIIII ZZZZZZZZZZ
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 RR EE PP PP 77 88 88
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s is the blue Task Organization
for file 3509A0

Battalion	Company	Platoon	Player	Player Type	Instrumentation Decimal/Octal
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-056 (20)

SCT/1ST-058 (56)

SCT (273)	APC/M2	0805/ 1445
SC2 (274)	APC/M2	0912/ 1620
SC3 (275)	APC/M2	0662/ 1226
ST1 (276)	APC/TOW	0597/ 1125
ST2 (277)	APC/TOW	0312/ 1454
ST3 (278)	APC/TOW	0991/ 1737

4.271ST-058 (57)

FD1 (279)	107 MM	0861/ 1535
FD2 (280)	107 MM	

MANP/1ST-058 (60)

VL1 (374)	VULCAN	
VL2 (375)	VULCAN	
VL3 (376)	VULCAN	
VL4 (377)	VULCAN	

ENG/1ST-058 (61)

E01 (381)	APC/M2	0853/ 1532
E02 (382)	APC/M2	
E03 (383)	APC/M2	
CEV (384)	TANK	

TOC/1ST-053 (55)

AF1 (245)	F/B	0218/ 332
AF2 (246)	F/B	0446/ 676
AF3 (247)	F/B	0238/ 356
AF4 (248)	F/B	0204/ 314
AF5 (249)	F/B	0318/ 476
AF6 (250)	F/B	0227/ 343
AF7 (251)	F/B	0231/ 347
CDR (252)	APC/M2	0946/ 1662
H06 (259)	APC/M2	0894/ 1576
H05 (260)	APC/M2	
H03 (261)	APC/M2	0875/ 1553
SJ2 (262)	APC/M2	0722/ 1322
T0C (263)	APC/M2	0661/ 1225

ARTY/1ST-050 (50)

OSA (252)	155 MM	
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ARTY/1ST-050 (57)

APPENDIX III

REFERENCE MATERIALS

Department of the Army. Army Regulation 350-50. National Training Center.

Department of the Army. FORSCOM Regulation 350-85-10. National Training Center.

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Headquarters, NTC (1984). OPFOR Training Notes.

Headquarters, NTC (20 January 1984). Twenty Day Rotational Model-Support Planning. (Letter of Instruction).

NTC Operations Group. Armor Tactical Analysis and Feedback (TAF) Team Standard Operating Procedure.

NTC Operations Group. Manpack Distribution.

NTC Operations Group. Performance Trends.